

Message

From: Qian, Yaorong [qian.yaorong@epa.gov]
Sent: 11/24/2020 6:07:24 PM
To: Nesci, Kimberly [Nesci.Kimberly@epa.gov]; Messina, Edward [Messina.Edward@epa.gov]
CC: Nguyen, Thuy [Nguyen.Thuy@epa.gov]; Anderson, Neil [Anderson.Neil@epa.gov]
Subject: RE: Additional ? re. Anvil/Massachusetts

Kimberly is right. We are currently

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thanks,

Yaorong

From: Nesci, Kimberly <Nesci.Kimberly@epa.gov>
Sent: Tuesday, November 24, 2020 12:58 PM
To: Messina, Edward <Messina.Edward@epa.gov>; Qian, Yaorong <qian.yaorong@epa.gov>
Cc: Nguyen, Thuy <Nguyen.Thuy@epa.gov>; Anderson, Neil <Anderson.Neil@epa.gov>
Subject: RE: Additional ? re. Anvil/Massachusetts

We are Ex. 5 Deliberative Process (DP) But, Yaorong and
Thuy might have a better sense of when we might expect results.

From: Messina, Edward <Messina.Edward@epa.gov>
Sent: Tuesday, November 24, 2020 12:55 PM
To: Qian, Yaorong <qian.yaorong@epa.gov>; Nesci, Kimberly <Nesci.Kimberly@epa.gov>
Cc: Nguyen, Thuy <Nguyen.Thuy@epa.gov>; Anderson, Neil <Anderson.Neil@epa.gov>
Subject: RE: Additional ? re. Anvil/Massachusetts

The second sentence makes it seem like

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ed Messina, Esq.
Acting Office Director
Office of Pesticide Programs
Office of Chemical Safety & Pollution Prevention
U.S. Environmental Protection Agency
Washington, D.C.
p: (703) 347-0209

From: Qian, Yaorong <qian.yaorong@epa.gov>
Sent: Tuesday, November 24, 2020 12:52 PM
To: Nesci, Kimberly <Nesci.Kimberly@epa.gov>; Messina, Edward <Messina.Edward@epa.gov>
Cc: Nguyen, Thuy <Nguyen.Thuy@epa.gov>; Anderson, Neil <Anderson.Neil@epa.gov>
Subject: RE: Additional ? re. Anvil/Massachusetts

Thank you, Kimberly.

Yaorong

From: Nesci, Kimberly <Nesci.Kimberly@epa.gov>
Sent: Tuesday, November 24, 2020 12:38 PM
To: Messina, Edward <Messina.Edward@epa.gov>
Cc: Nguyen, Thuy <Nguyen.Thuy@epa.gov>; Qian, Yaorong <qian.yaorong@epa.gov>; Anderson, Neil <Anderson.Neil@epa.gov>
Subject: FW: Additional ? re. Anvil/Massachusetts

Thuy and Yaorong provided some detail below, which I'm including for you (I know you like the detail!). For a more simple statement for the press, we could say:

Ex. 5 Deliberative Process (DP)

From: Nguyen, Thuy <Nguyen.Thuy@epa.gov>
Sent: Tuesday, November 24, 2020 11:31 AM
To: Nesci, Kimberly <Nesci.Kimberly@epa.gov>; Qian, Yaorong <qian.yaorong@epa.gov>
Cc: Anderson, Neil <Anderson.Neil@epa.gov>
Subject: RE: Additional ? re. Anvil/Massachusetts

Kimberly
Here it is. Let us know if you need additional information.
Thuy

Ex. 5 Deliberative Process (DP)

From: Nesci, Kimberly <Nesci.Kimberly@epa.gov>
Sent: Tuesday, November 24, 2020 9:47 AM
To: Nguyen, Thuy <Nguyen.Thuy@epa.gov>; Qian, Yaorong <qian.yaorong@epa.gov>
Cc: Anderson, Neil <Anderson.Neil@epa.gov>
Subject: FW: Additional ? re. Anvil/Massachusetts

Thuy and Yaorong, can you draft something on what the lab is doing wrt the pfas project? Just a couple of sentences at most. This is for the Administrator. Thanks.

From: Messina, Edward <Messina.Edward@epa.gov>
Sent: Tuesday, November 24, 2020 9:37 AM
To: Nesci, Kimberly <Nesci.Kimberly@epa.gov>; Reaves, Elissa <Reaves.Elissa@epa.gov>
Cc: Goodis, Michael <Goodis.Michael@epa.gov>; Layne, Arnold <Layne.Arnold@epa.gov>; Dinkins, Darlene <Dinkins.Darlene@epa.gov>
Subject: FW: Additional ? re. Anvil/Massachusetts

Fyi. Might want to draft something.

Ed Messina, Esq.
Acting Office Director
Office of Pesticide Programs
Office of Chemical Safety & Pollution Prevention
U.S. Environmental Protection Agency
Washington, D.C.
p: (703) 347-0209

From: Deegan, Dave <Deegan.Dave@epa.gov>
Sent: Tuesday, November 24, 2020 9:35 AM
To: Messina, Edward <Messina.Edward@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Siedschlag, Gregory <Siedschlag.Gregory@epa.gov>
Cc: Deegan, Dave <Deegan.Dave@epa.gov>; Barmakian, Nancy <Barmakian.Nancy@epa.gov>; McGuire, Karen <Mcguire.Karen@epa.gov>
Subject: Additional ? re. Anvil/Massachusetts

Hi Folks,

We've been asked a few further questions by the Administrator's Office re. the statement we worked on yesterday. We wanted to check whether OPP is ok with **Ex. 5 Deliberative Process (DP)** since I don't think we have specifically stated that yet. (I don't know yet whether the AO would want this info in the desk statement or not.)

Thanks!
Dave
~~~~~

Dave Deegan  
U.S. EPA, New England Regional Office  
Office of Public Affairs  
phone: 617.918.1017 | mobile: 617.594.7068



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**From:** McGuire, Karen <Mcguire.Karen@epa.gov>  
**Sent:** Tuesday, November 24, 2020 9:21 AM  
**To:** Chow, James <chow.james@epa.gov>; Deegan, Dave <Deegan.Dave@epa.gov>  
**Cc:** Hayes, Sharon <Hayes.Sharon@epa.gov>; Barmakian, Nancy <Barmakian.Nancy@epa.gov>  
**Subject:** RE: FOR REVIEW: Globe PFAS story

Does OCSPP want to share that Ft Meade is working on method development so that it can possibly also analyze Anvil 10+10 to compare with the results Massachusetts had obtained?

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**From:** McGuire, Karen <Mcguire.Karen@epa.gov>  
**Sent:** Tuesday, November 24, 2020 9:14 AM  
**To:** Deegan, Dave <Deegan.Dave@epa.gov>  
**Cc:** Hayes, Sharon <Hayes.Sharon@epa.gov>; Chow, James <chow.james@epa.gov>; Barmakian, Nancy <Barmakian.Nancy@epa.gov>  
**Subject:** RE: FOR REVIEW: Globe PFAS story

What about adding #3 below? We should confirm OECA comms okay with this.  
Also, I've attached some highlights of R1involvement Sharon pulled together if helpful.

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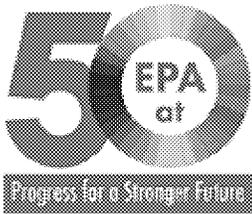
**From:** Deegan, Dave <Deegan.Dave@epa.gov>  
**Sent:** Tuesday, November 24, 2020 8:54 AM  
**To:** McGuire, Karen <Mcguire.Karen@epa.gov>; Barmakian, Nancy <Barmakian.Nancy@epa.gov>  
**Cc:** Deziel, Dennis <Deziel.Dennis@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>; Gutro, Doug <Gutro.Doug@epa.gov>  
**Subject:** FW: FOR REVIEW: Globe PFAS story

Hi, FYI on request for further clarification in email below. I've sketched in brief responses below but please weigh in on substance since I'm not at all positive that what I'm suggesting is 100% accurate.

# Ex. 5 Deliberative Process (DP)

Thanks!  
Dave  
~~~~~

Dave Deegan
U.S. EPA, New England Regional Office
Office of Public Affairs
phone: 617.918.1017 | mobile: 617.594.7068



From: Hoverman, Taylor <hoverman.taylor@epa.gov>
Sent: Tuesday, November 24, 2020 8:39 AM
To: Deegan, Dave <Deegan.Dave@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>
Subject: RE: FOR REVIEW: Globe PFAS story

Sorry for delay – two questions as I edit:

-
- **Ex. 5 Deliberative Process (DP)**

Taylor Meredith
Senior Advisor to the Administrator
U.S. Environmental Protection Agency
C: 202-494-3662
O: 202-566-2705

From: Deegan, Dave <Deegan.Dave@epa.gov>
Sent: Monday, November 23, 2020 3:20 PM
To: Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Hewitt, James <hewitt.james@epa.gov>; Deziel, Dennis <Deziel.Dennis@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>; Gutro, Doug <Gutro.Doug@epa.gov>; McGuire, Karen <Mcguire.Karen@epa.gov>; Messina, Edward <Messina.Edward@epa.gov>; Siedschlag, Gregory <Siedschlag.Gregory@epa.gov>; Barmakian, Nancy <Barmakian.Nancy@epa.gov>
Cc: Grantham, Nancy <Grantham.Nancy@epa.gov>; Hull, George <Hull.George@epa.gov>; Hoverman, Taylor <hoverman.taylor@epa.gov>; Block, Molly <block.molly@epa.gov>; Ozmen, Shamus <Ozmen.Shamus@epa.gov>; Norcross, Jeffrey <Norcross.Jeffrey@epa.gov>; Deegan, Dave <Deegan.Dave@epa.gov>
Subject: RE: FOR REVIEW: Globe PFAS story

Changing

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

>>>

Statement

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

<<<<

Thanks!

Dave

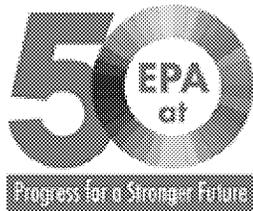
~~~~~

Dave Deegan

U.S. EPA, New England Regional Office

Office of Public Affairs

phone: 617.918.1017 | mobile: 617.594.7068



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**From:** Drinkard, Andrea <Drinkard.Andrea@epa.gov>

**Sent:** Monday, November 23, 2020 2:55 PM

**To:** Dennis, Allison <Dennis.Allison@epa.gov>; Deegan, Dave <Deegan.Dave@epa.gov>; Hewitt, James <hewitt.james@epa.gov>; Deziel, Dennis <Deziel.Dennis@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>; Gutro, Doug <Gutro.Doug@epa.gov>; McGuire, Karen <Mcguire.Karen@epa.gov>; Messina, Edward <Messina.Edward@epa.gov>; Siedschlag, Gregory <Siedschlag.Gregory@epa.gov>

**Cc:** Grantham, Nancy <Grantham.Nancy@epa.gov>; Hull, George <Hull.George@epa.gov>; Hoverman, Taylor <hoverman.taylor@epa.gov>; Block, Molly <block.molly@epa.gov>; Ozmen, Shamus <Ozmen.Shamus@epa.gov>; Norcross, Jeffrey <Norcross.Jeffrey@epa.gov>

**Subject:** RE: FOR REVIEW: Globe PFAS story

Sorry, Allison, and all for the resend, I forgot to tweak the sentence you mentioned. Updated below.

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**From:** Drinkard, Andrea

**Sent:** Monday, November 23, 2020 2:51 PM

**To:** Dennis, Allison <Dennis.Allison@epa.gov>; Deegan, Dave <Deegan.Dave@epa.gov>; Hewitt, James <Hewitt.James@epa.gov>; Deziel, Dennis <Deziel.Dennis@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>; Gutro, Doug <Gutro.Doug@epa.gov>; McGuire, Karen <Mcguire.Karen@epa.gov>; Messina, Edward <Messina.Edward@epa.gov>; Siedschlag, Gregory <Siedschlag.Gregory@epa.gov>

**Cc:** Grantham, Nancy <Grantham.Nancy@epa.gov>; Hull, George <Hull.George@epa.gov>; Hoverman, Taylor <hoverman.taylor@epa.gov>; Block, Molly <block.molly@epa.gov>; Ozmen, Shamus <Ozmen.Shamus@epa.gov>

Norcross, Jeffrey <Norcross.Jeffrey@epa.gov>

**Subject:** RE: FOR REVIEW: Globe PFAS story

Thanks, Allison. Cleaned up and slightly rearranged for flow. Does anyone have additional edits? Dave D, how are we doing on timing with the reporter? I'd like Taylor to weigh in as well, if she has time.

#### Statement

## Ex. 5 Deliberative Process (DP)

#### Background

## Ex. 5 Deliberative Process (DP)

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**From:** Dennis, Allison <Dennis.Allison@epa.gov>

**Sent:** Monday, November 23, 2020 2:43 PM

**To:** Deegan, Dave <Deegan.Dave@epa.gov>; Hewitt, James <hewitt.james@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Deziel, Dennis <Deziel.Dennis@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>; Gutro, Doug <Gutro.Doug@epa.gov>; McGuire, Karen <Mcguire.Karen@epa.gov>; Messina, Edward <Messina.Edward@epa.gov>; Siedschlag, Gregory <Siedschlag.Gregory@epa.gov>

**Cc:** Grantham, Nancy <Grantham.Nancy@epa.gov>; Hull, George <Hull.George@epa.gov>; Hoverman, Taylor <hoverman.taylor@epa.gov>; Block, Molly <block.molly@epa.gov>; Ozmen, Shamus <Ozmen.Shamus@epa.gov>; Norcross, Jeffrey <Norcross.Jeffrey@epa.gov>

**Subject:** RE: FOR REVIEW: Globe PFAS story

Can we change this sentence:

## Ex. 5 Deliberative Process (DP)

FYI – I don't want to give an impression that

Ex. 5 Deliberative Process (DP)

**From:** Deegan, Dave <Deegan.Dave@epa.gov>

**Sent:** Monday, November 23, 2020 2:38 PM

**To:** Dennis, Allison <Dennis.Allison@epa.gov>; Hewitt, James <hewitt.james@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Deziel, Dennis <Deziel.Dennis@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>; Gutro, Doug <Gutro.Doug@epa.gov>; McGuire, Karen <Mcguire.Karen@epa.gov>; Messina, Edward <Messina.Edward@epa.gov>; Siedschlag, Gregory <Siedschlag.Gregory@epa.gov>

**Cc:** Grantham, Nancy <Grantham.Nancy@epa.gov>; Hull, George <Hull.George@epa.gov>; Hoverman, Taylor <hoverman.taylor@epa.gov>; Block, Molly <block.molly@epa.gov>; Ozmen, Shamus <Ozmen.Shamus@epa.gov>; Norcross, Jeffrey <Norcross.Jeffrey@epa.gov>; Deegan, Dave <Deegan.Dave@epa.gov>

**Subject:** RE: FOR REVIEW: Globe PFAS story

Hi All,

Here are combined input from Region 1. First a few points for clarification, then below we show an edited statement:

Region 1 has: **Ex. 5 Deliberative Process (DP)**

In addition, we recommend: **Ex. 5 Deliberative Process (DP)**

**Ex. 5 Deliberative Process (DP)**

We defer to OCSPP, but also would: **Ex. 5 Deliberative Process (DP)**

Finally, while we're not sure this is helpful in the response, **Ex. 5 Deliberative Process (DP)**

**Ex. 5 Deliberative Process (DP)**

We've included suggested edits in the text below.

#### Statement

**Ex. 5 Deliberative Process (DP)**

#### Background

**Ex. 5 Deliberative Process (DP)**

Thanks!

Dave

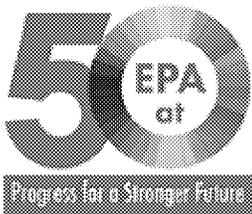
~~~~~

Dave Deegan

U.S. EPA, New England Regional Office

Office of Public Affairs

phone: 617.918.1017 | mobile: 617.594.7068



From: Dennis, Allison <Dennis.Allison@epa.gov>

Sent: Monday, November 23, 2020 1:55 PM

To: Hewitt, James <hewitt.james@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Deegan, Dave <Deegan.Dave@epa.gov>; Deziel, Dennis <Deziel.Dennis@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>; Gutro, Doug <Gutro.Doug@epa.gov>; Norcross, Jeffrey <Norcross.Jeffrey@epa.gov>; McGuire, Karen <Mcguire.Karen@epa.gov>

Cc: Grantham, Nancy <Grantham.Nancy@epa.gov>; Hull, George <Hull.George@epa.gov>; Siedschlag, Gregory <Siedschlag.Gregory@epa.gov>; Hoverman, Taylor <hoverman.taylor@epa.gov>; Block, Molly <block.molly@epa.gov>; Ozmen, Shamus <Ozmen.Shamus@epa.gov>

Subject: RE: FOR REVIEW: Globe PFAS story

Please add **Ex. 5 Deliberative Process (DP)**

I think R1 is best to take the lead on this ask: Are we able to make it clear **Ex. 5 Deliberative Process (DP)**

Ex. 5 Deliberative Process (DP)

From: Hewitt, James <hewitt.james@epa.gov>

Sent: Monday, November 23, 2020 12:59 PM

To: Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Deegan, Dave <Deegan.Dave@epa.gov>; Deziel, Dennis <Deziel.Dennis@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>; Gutro, Doug <Gutro.Doug@epa.gov>; Norcross, Jeffrey <Norcross.Jeffrey@epa.gov>; McGuire, Karen <Mcguire.Karen@epa.gov>

Cc: Grantham, Nancy <Grantham.Nancy@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Hull, George <Hull.George@epa.gov>; Siedschlag, Gregory <Siedschlag.Gregory@epa.gov>; Hoverman, Taylor <hoverman.taylor@epa.gov>; Block, Molly <block.molly@epa.gov>; Ozmen, Shamus <Ozmen.Shamus@epa.gov>

Subject: RE: FOR REVIEW: Globe PFAS story

DRAFT AND DELIBERATIVE

I want to move further to the top that **Ex. 5 Deliberative Process (DP)**

Are we able to make it clear **Ex. 5 Deliberative Process (DP)**

From: Drinkard, Andrea <Drinkard.Andrea@epa.gov>
Sent: Monday, November 23, 2020 12:50 PM
To: Deegan, Dave <Deegan.Dave@epa.gov>; Deziel, Dennis <Deziel.Dennis@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>; Gutro, Doug <Gutro.Doug@epa.gov>; Norcross, Jeffrey <Norcross.Jeffrey@epa.gov>; McGuire, Karen <Mcguire.Karen@epa.gov>
Cc: Grantham, Nancy <Grantham.Nancy@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Hull, George <Hull.George@epa.gov>; Siedschlag, Gregory <Siedschlag.Gregory@epa.gov>; Hoverman, Taylor <hoverman.taylor@epa.gov>; Block, Molly <block.molly@epa.gov>; Hewitt, James <hewitt.james@epa.gov>; Ozmen, Shamus <Ozmen.Shamus@epa.gov>
Subject: FOR REVIEW: Globe PFAS story

DRAFT DELIBERATIVE

In the interest of time, I wanted to get an updated statement around to this group for input. Please send me any edits you have ASAP and I will compile them and share a new draft. Our deadline is this "afternoon."

One question I did have was whether

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Statement

Ex. 5 Deliberative Process (DP)

Background

Ex. 5 Deliberative Process (DP)

From: Deegan, Dave <Deegan.Dave@epa.gov>
Sent: Monday, November 23, 2020 7:33 AM
To: Deziel, Dennis <Deziel.Dennis@epa.gov>; Szaro, Deb <Szaro.Deb@epa.gov>; Gutro, Doug <Gutro.Doug@epa.gov>; Norcross, Jeffrey <Norcross.Jeffrey@epa.gov>; McGuire, Karen <Mcguire.Karen@epa.gov>
Cc: Grantham, Nancy <Grantham.Nancy@epa.gov>; Leifer, Kerry <Leifer.Kerry@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>; Hull, George <Hull.George@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>; Siedschlag, Gregory <Siedschlag.Gregory@epa.gov>
Subject: Fwd: Globe PFAS story

Hi All, flagging for awareness Boston Globe inquiry below.

Assuming we will coordinate between HQ and region.

Dave

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Dave Deegan  
US EPA, Region 1  
Office of Public Affairs  
[deegan.dave@epa.gov](mailto:deegan.dave@epa.gov)  
617.918.1017 office  
617.594.7068 iPhone

Begin forwarded message:

**From:** "Abel, David" <[dabel@globe.com](mailto:dabel@globe.com)>  
**Date:** November 22, 2020 at 6:14:43 PM EST  
**To:** "Leifer, Kerry" <[Leifer.Kerry@epa.gov](mailto:Leifer.Kerry@epa.gov)>, "Deegan, Dave" <[Deegan.Dave@epa.gov](mailto:Deegan.Dave@epa.gov)>  
**Subject:** **Globe PFAS story**

Hi Kerry and Dave,

I hope all's well. I'm working on a potential story about elevated levels of PFAS found in Anvil, the insecticide Massachusetts and other states use to spray for EEE. Below is a table of findings from DEP, as well as a press release and other documents from PEER, urging the state to ban the use of the chemicals.

Just wondering if you could respond to these questions:

- Are these findings of PFAS in Anvil from the DEP concerning, and if so, why or why not?
- Should we be as concerned about forever chemicals (which don't degrade) being sprayed by air and truck entering drinking water and other water systems, and if so, why?
- Based on these findings, should the EPA or states ban the use of these chemicals, and if so, why or why not?

Thanks!

Best, David

**Summary Table of PFAS Concentrations from MassDEP Anvil 10 + 10 Sampling:**

| Sample collection date               | 9/22                                                                   | 9/22           | 9/22                                                           | 9/22                      | 9/22                                        | 10/21          | 10/21          | 10/21                               | 10/21                                                 | 10/22                               |
|--------------------------------------|------------------------------------------------------------------------|----------------|----------------------------------------------------------------|---------------------------|---------------------------------------------|----------------|----------------|-------------------------------------|-------------------------------------------------------|-------------------------------------|
| Sample type                          | 55 gal. drum 1                                                         | 55 gal. drum 2 | CONTROL: sampling device rinse cntrl. for 55 gal. drum 1 and 2 | 2.5 gal. jug 1 (SAMPLE 3) | sampling device rinse cntrl. 2.5 gal. jug 1 | 55 gal. drum 1 | 55 gal. drum 2 | 55 gal. drum 3 and duplicate sample | Sampling device rinse cntrl. for 55 gal. drum 1 and 2 | 2.5 gal. jug 2 and Duplicate sample |
| PFAS Compound                        | Concentration in nanograms per liter (ng/L) or part per trillion (ppt) |                |                                                                |                           |                                             |                |                |                                     |                                                       |                                     |
| <b>Perfluorobutanoic Acid (PFBA)</b> | <b>692</b>                                                             | 171            | ND<br>ND                                                       | 52.8 J                    | ND                                          | <b>716</b>     | 174            | <b>230</b><br>216                   | ND<br>ND                                              | 59.2 J<br>62.9 J                    |

|                                                                                   |               |           |                  |               |             |               |           |                  |                    |                        |
|-----------------------------------------------------------------------------------|---------------|-----------|------------------|---------------|-------------|---------------|-----------|------------------|--------------------|------------------------|
| Perfluoro-3-Methoxypropanoic Acid (PFMPA)                                         | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| <b>Perfluoropentanoic Acid (PFPeA)</b>                                            | 296           | 76.6 J    | 0.370 J<br>ND    | 35.2 J        | ND          | 290           | 55.4 J    | 88.7 J<br>84.7 J | ND<br>ND           | 41.5 J<br>41.2 J       |
| Perfluorobutanesulfonic Acid (PFBS)                                               | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| Perfluoro-4-Methoxybutanoic Acid (PFMBA)                                          | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEEESA)                                  | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)                                        | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| 1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)                                 | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| Perfluorohexanoic Acid (PFHxA)                                                    | 132           | 41.2 J    | 0.407 J<br>ND    | 17.6 J        | 0.461 J     | 105           | 23.7 J    | 37.4 J<br>42.3 J | ND<br>ND           | 19.7 J<br>ND           |
| Perfluoropentanesulfonic Acid (PFPeS)                                             | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| 2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA) | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| Perfluoroheptanoic Acid (PFHpA)                                                   | 53.4 J        | 23.6 J    | ND<br>ND         | ND            | ND          | 47.6 J        | ND        | ND<br>19.2 J     | ND<br>ND           | ND<br>ND               |
| <b>Perfluorohexanesulfonic Acid (PFHxS)</b>                                       | <b>ND</b>     | <b>ND</b> | <b>ND<br/>ND</b> | <b>52.8 J</b> | <b>ND</b>   | <b>ND</b>     | <b>ND</b> | <b>ND<br/>ND</b> | <b>ND<br/>ND</b>   | <b>59.2 J<br/>57 J</b> |
| 4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)                                       | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| 1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)                                 | ND            | ND        | ND<br>ND         | ND            | ND          | 29.8 J        | 31.6 J    | 27.6 J<br>28.9 J | ND<br>ND           | ND<br>ND               |
| <b>Perfluorooctanoic Acid (PFOA)</b>                                              | <b>25.7 J</b> | <b>ND</b> | <b>ND<br/>ND</b> | <b>ND</b>     | <b>ND</b>   | <b>21.8 J</b> | <b>ND</b> | <b>ND<br/>ND</b> | <b>ND<br/>ND</b>   | <b>ND<br/>ND</b>       |
| Perfluoroheptanesulfonic Acid (PFHpS)                                             | 107           | 100       | ND<br>ND         | 125           | ND          | ND            | 98.9      | 63.0 J<br>52.0 J | ND<br>ND           | 138<br>108             |
| Perfluorononanoic Acid (PFNA)                                                     | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| <b>Perfluorooctanesulfonic Acid (PFOS)</b>                                        | <b>73.1 J</b> | <b>ND</b> | <b>ND<br/>ND</b> | <b>76.2 J</b> | <b>2.73</b> | <b>ND</b>     | <b>ND</b> | <b>ND<br/>ND</b> | <b>3.31<br/>ND</b> | <b>132<br/>141</b>     |
| 9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)                     | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| 1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)                                 | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| Perfluorodecanoic Acid (PFDA)                                                     | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| Perfluoroundecanoic Acid (PFUnA)                                                  | 13.8 J        | ND        | ND<br>ND         | 21.5 J        | ND          | 184           | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| 11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)                | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |
| Perfluorododecanoic Acid (PFDoA)                                                  | ND            | ND        | ND<br>ND         | ND            | ND          | ND            | ND        | ND<br>ND         | ND<br>ND           | ND<br>ND               |

Table notes: ND = not detected; J = estimated value; Tube rinse cntrl. = sampling device rinsates performed at sampling site prior to sample collection to assess any sampling device contamination. All field and trip blanks were generally non-detect and are not presented. In one, PFOS was detected at 3.3 ppt.

All samples were analyzed by Alpha Analytical, Mansfield, MA. using a modified version of EPA Method 533. Stated reporting limits for product samples were below 100 ng/L with detection limits ranging from approximately 5-50 ng/L depending on the analyte. QA/QC issues were appropriately noted by Alpha Analytical in the lab reports but all QA/QC elements have not been fully reviewed by MassDEP at this time.

The September and October samples were collected by two different contractors using new sampling devices. The October 2.5 gallon jug samples were directly poured into the sample collection tubes.

Initial samples that were collected on 9/2 are not presented. These were invalidated because appropriate field controls were not collected by the contractor and results were consistent with samples being contaminated during collection. In that round, five to thirteen PFAS were detected in duplicate analyses of the single drum 1 sample collected, with a maximum concentration of 25 ug/L (25,000 ppt) for PFBA.

David Abel

Reporter  
The Boston Globe  
[dabel@globe.com](mailto:dabel@globe.com)  
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